

# Exhibit D

## *James F. Valentine Jr. Inc.*

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### ENGINEERING REPORT

DATE: 26 January 2010

SUBJECT: Metso Paper

DATE OF LOSS: 21 January 2006

TYPE OF LOSS: Fire

FILE NUMBER 06-010-RM

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26 January 2010  
Metso Paper  
Engineering Report

considered proof that the ballast was not a contributing factor to the failure of the lamp as a malfunctioning ballast would not start the lamp.

There is a date code formed into the glass at the base of the incident lamp which reads, "E2G". According to John P. Sullivan, Account Manager with GE Consumer and Industrial Lighting, this date code means that the lamp was manufactured in May of 2002. According to David Kuzmick of Metso Paper, all of the light ballasts were replaced approximately 1.5 years before the fire due to the noise emanating from each light. Many lamps were replaced during this work, but not all lamps were replaced. There is no means by which personnel can verify if this lamp, made in May 2002, was replaced during the work in mid 2004. However, this time frame is the most likely and will be used for this report.

The arc tube of the lamp is shattered and the outer envelope is gone, save for a small section around the base. As the arc tube is made to withstand the operating temperature of over 2000°F, heat rising from flames that burn at about 1400°F cannot cause the shattering damage to the arc tube. The only explanation for the damage to the lamp is an internally caused rupture.

MH lamps have a higher rate of failure if left operating 24 hours a day, 7 days a week for their rated life. These lamps were operated, on average, from 7:00AM on Monday to 11:00 PM on Friday each week. The lights would be turned off for the week-end except for the rare occasion that they would operate on a Saturday, such as the date of loss. On these occasions, the lights would be turned off on Friday night and turned on Saturday morning.

Operation of this luminaire was indicated as 7 AM Monday to 11 PM Friday. This time period is 112 hours. This number will be rounded to 120 hours to account for early arrivals, late departures and week-end hours. If this light was installed on Monday 5 June 2004, then it had operated for about 85 weeks at the time of the fire. Multiplying the average hours by the number of weeks results in 10,200 hours of operation. Using the model number on the sleeve of one of the replacement lamps as a guide for the lamp that failed, the specification sheet lists the life expectancy of this lamp as 16,000 hours. However, at the bottom of the specification sheet, a note states, "When operating on a 120 hrs. cycle (minimum), lamp life rating may be extended by up to 50% based on engineering estimates." This means that with the operation of the GE lamp, the way Metso Paper did, the life rating should have been over 20,000 hours. The failure of the